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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,358	02/06/2004	Hyun Shik Cho	1630-0136P	5044
2292	7590	04/27/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 04/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/772,358

Applicant(s)

CHO ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 2/9/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 1,8 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

Amendment, filed on 02/09/06 has been considered and entered.

Amended drawings are approved by examiner.

Substitute specification has been entered.

Claim 2 is cancelled.

Claim Objections

Amended claim 15 is objected to because of the following informalities: in line 8, "yoke plane" should be changed to "yoke line plane". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6 & 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Swank et al. (US 5155411).

Regarding claim 1, Swank et al. disclose a cathode ray tube (Fig 1) comprising a panel (faceplate panel 12) having phosphor screen (22) on the inner surface thereof, a funnel 15, joined to the panel 12 at a seal line plane (21 of Fig 1) and having a body portion, a yoke portion (from one end of 34 to the other end), yoke line plane (along the vertical line drawn through the end of 34, end close to the faceplate, of the yoke 30) and a neck portion 14, an electron gun 26 mounted to the neck portion of the funnel wherein

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a projection (42) is provided between a seal line (21) and the neck portion of the funnel (lines 12-44 of column 2) extending on both sides of the yoke line plane (shown clearly in Fig 2).

Regarding claim 3, Swank discloses that a maximum thickness and a minimum thickness of the projection is about 2 (see Fig 2 & Fig 3), this satisfies the equation of claim 3.

Regarding claim 4, Swank et al. disclose that the thickness of the projection is greater than the thickness of the body portion 15 (see Fig 3).

Regarding claims 5 & 6, Swank et al. disclose that the thickness projection of the projection 42 have stairs (steps, 46, 52) having curvature (see Fig 2 & Fig 3).

Regarding claim 12, Swank et al. disclose that a deflection angle of the electron beams is no less than or equal to 100 degrees (see Lines 15-18 of column 1).

Regarding claims 13 & 14, Swank discloses that a cross section of the neck portion 14 is shaped non-circular (see Fig 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swank et al. as applied to claim 1 above, further in view of Sugawara et al. (US2002/0185959).

Regarding claim 7 Swank et al. discloses all the limitations of claim 7 except for the thickness of the funnel except for the projection becomes gradually greater from the neck portion to the seal line plane.

However, Sugawara et al. teach that for a flat panel CRT, panel thickness is much greater at the periphery where it is joined to the funnel compared to the thickness of the panel at the center of the panel, and in order to reduce the thermal stress developed for this thickness variation funnel thickness is much greater near the seal line and gradually decreases near the neck of the funnel to make the CRT light weight (see Fig 1, see paragraph 0012-0015), such structure of panel and funnel produces flat screen while reduces thermal stress to prevent fracture while making the funnel thinner.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the thickness of the funnel as discloses by Sugawara et al. in the device of Swank et al. since this will provide a flat CRT having reduced thermal stress in glass envelope of the CRT.

Allowable Subject Matter

Claims 8-11 & 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, the prior art of record neither shows nor suggests a CRT having panel an the funnel satisfy $USD/PT \geq 2.5$, wherein USD is a diagonal length of an effective screen of the panel and PT is a distance between a central point of an inner surface of the panel and the yoke line plane, together with other cited limitations of claim 1.

Regarding claim 15, the prior art of record neither shows nor suggests a CRT comprising the limitations cited in claim 15.

Response to Arguments

Applicant's arguments filed 02/09/06 have been fully considered but they are not persuasive.

Applicant contends that Swank's body of glass is not located in yoke line plane, but is adjacent to Swank's yoke line plane.

However, examiner respectfully disagrees.

A yoke line means a line in which deflection yoke of a CRT, deflecting an electron beam can be placed on the body of CRT toward the panel to the utmost. The yoke line plane means a vertical plane which is perpendicular to the deflection axis X including the yoke line.

In Swank's case, the utmost point of the yoke towards panel is the end of 34 of Fig 2, towards panel (see Fig 2) and the yoke line plane is the vertical plane containing

that line, thus the glass extension 42 of Swank is extending on both sides of the YLP (yoke line plane, see Fig 2).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Contact Information

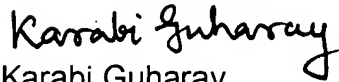
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karabi Guharay
Primary Examiner
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